

CLAIMS

We claim:

1. A network tap that permits an attached device to communicate with a node of a network, the node of the network communicating with a network cable transmitting network data thereon, the network cable having a first segment and a second segment, the network tap comprising:

a first and second tap port, at least one of which is configured to receive a copy of network data obtained from the network cable, wherein the attached device can be selectively connected to at least one of the first and second tap ports and at least one of the first and second tap ports is configured to receive device data from the attached device, the first and second tap ports being capable of operating in a plurality of modes, each being defined by enabling or disabling the ability of the first and second tap ports to receive network data and device data;

means for inserting device data from the attached device into the network cable without disrupting the flow of data therein; and

means for selecting one of the plurality of modes in which the first and second tap ports may operate.

2. The network tap as recited in claim 1, wherein in one mode, the first and second tap ports are both enabled to receive the network data.

3. The network tap as recited in claim 2, wherein in one mode, at least one of the first and second tap ports are enabled to receive device data.

4. The network tap as recited in claim 2, wherein in one mode, the first and second tap ports are both disabled from receiving device data.

5. The network tap as recited in claim 1, wherein in one mode, one of the first and second tap ports is enabled to receive network data and the other of the first and second tap ports is disabled from receiving network data.

6. The network tap as recited in claim 5, wherein in one mode, the one of the first and second tap ports that is enabled to receive network data is also enabled to receive device data.

7. The network tap as recited in claim 5, wherein in one mode, the one of the first and second tap ports that is enabled to receive network data is disabled from receiving device data.

8. The network tap as recited in claim 5, wherein in one mode, the one of the first and second tap ports that is disabled from receiving network data is enabled to receive device data.

9. The network tap as recited in claim 5, wherein in one mode, the one of the first and second tap ports that is disabled from receiving network data is also disabled from receiving device data.

10. The network tap as recited in claim 1, wherein means for inserting received device data into the network cable without disrupting the flow of data therein comprises an Ethernet switch.

11. The network tap as recited in claim 1, wherein means for inserting received device data into the network cable without disrupting the flow of data therein comprises an integrated circuit.

12. The network tap as recited in claim 11, wherein the integrated circuit comprises a field programmable gate array.

13. The network tap as recited in claim 1, wherein means for selecting one of the plurality of modes in which the first and second tap ports may operate comprises:

a management port configured to selectively connect to a remote computer; and

an integrated circuit configured to receive management data from the management port to at least indirectly enable or disable the ability of the first and second tap port to receive at least one of network data and device data.

14. The network tap as recited in claim 1, wherein means for selecting one of the plurality of modes in which the first and second tap ports may operate comprises one or more manual switches located on the network tap.

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15. A network tap that permits an attached device to communicate with a node of a network, the node of the network communicating with a network cable transmitting network data thereon, the network cable having a first segment and a second segment, the network tap comprising:

a first tap port configured to receive a copy of network data obtained from the network cable;

a second tap port configured to receive a copy of network data obtained from the network cable, wherein the attached device can be selectively connected to at least one of the first tap port and second tap port, wherein at least one of the first tap port and second tap port is configured to receive device data from the attached device, and wherein the first tap port and second tap port are configured to operate in a plurality of modes, each mode being defined by enabling or disabling the ability of the first tap port and second tap port to receive network data and device data;

a routing node that is in communication with the first tap port and second tap port, the routing node being configured to pass network data from the network cable to at least one of the first tap port and the second tap port and to pass device data from at least one of the first tap port and second tap port to the network cable; and

an integrated circuit configured to select the mode in which the first tap port and second tap port operate.

16. The network tap as recited in claim 15, wherein the integrated circuit enables both the first tap port and the second tap port to receive network data.

17. The network tap as recited in claim 16, wherein the integrated circuit enables at least one of the first tap port and second tap port to receive device data.

18. The network tap as recited in claim 17, wherein:

the attached device is an intrusion detection system; and

the device data comprises a kill packet from the intrusion detection system, the routing node being configured for transmitting the kill packet via the network cable to a firewall.

19. The network tap as recited in claim 16, wherein the integrated circuit disables both the first tap port and second tap port from receiving device data.

20. The network tap as recited in claim 15, wherein the integrated circuit enables one of the first tap port and second tap port to receive network data, forming a combined network data port, and disables the other of the first tap port and second tap port from receiving network data, forming a disabled network data port.

21. The network tap as recited in claim 20, wherein the integrated circuit enables the combined network data port to also receive device data.

22. The network tap as recited in claim 20, wherein the integrated circuit disables the combined network data port from receiving device data.

23. The network tap as recited in claim 20, wherein the integrated circuit enables the disabled network data port to receive device data.

24. The network tap as recited in claim 20, wherein the integrated circuit disables the disabled network data port from receiving device data.

25. The network tap as recited in claim 16, further comprising:
a first multiplexer in communication with the first tap port; and
a second multiplexer in communication with the second tap port,
wherein the integrated circuit controls the first multiplexer and second multiplexer to select the mode in which the first tap port and second tap port operate.

26. A network tap that permits an attached device to communicate with a node of a network, the node of the network communicating with a network cable transmitting network data thereon, the network tap comprising:

- a first network port configured to transmit or receive network data;
- a second network port configured to transmit or receive network data;
- a first tap port configured to receive a copy of at least some of the network data;
- a second tap port configured to receive a copy of at least some of the network data, wherein an attached device can be selectively connected to at least one of the first tap port and second tap port, wherein at least one of the first tap port and second tap port is configured to receive device data from the attached device, and wherein the first tap port and second tap port are configured to operate in a plurality of modes, each mode being defined by enabling or disabling the ability of the first tap port and second tap port to receive network data and device data; and
- a first switch that is in communication with the first network port and the second network port and with the first tap port and second tap port, the switch being configured to pass network data between the first network port and the second network port and transmit device data from one of the first tap port and second tap port to one of the first network port and second network port.

27. The network tap of claim 26, further comprising a second switch that is in communication with the first network port and the second network port and with the first tap port and the second tap port, the switch being configured to combined network data from the first network port and second network port and transmit the combined network data to one of the first tap port and second tap port.

28. The network tap of claim 27, further comprising:

a third tap port configured to receive a copy of at least some of the network data; and

a fourth tap port configured to receive a copy of at least some of the network data, wherein the second switch is configured to duplicate the combined network data and transmit the combined network data to one of the third tap port and fourth tap port.

29. The network tap of claim 26, further comprising an integrated circuit configured to select the mode in which the first tap port and the second tap port operate.

30. The network tap of claim 29, wherein the integrated circuit comprises a Field Programmable Gate Array.

31. The network tap of claim 26, further comprising a management port configured to transmit management data to the integrated circuit, the management port being configured to be selectively connected to a remote computer.

32. The network tap of claim 26, further comprising a first communication line from the first network port to the first switch and a second communication line from the second network port to the first switch, each of the first communication line and the second communication line including:

a relay for circumventing the first switch in the event of loss of power at the network tap;

a transformer; and

a fan out buffer that propagates the network data to the switch and propagates a copy of the network data to the first tap port and second tap port.

33. The network tap of claim 32, further comprising a third communication line for transmitting device data from one of the first tap port and second tap port to the first switch, the third communication line including:

a transformer;

a physical layer device; and

a multiplexer.